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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/582,937

06/15/2006

Markus Lauff

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SCHWEGMAN, LUNDBERG & WOESSNER/SAP

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EXAMINER

HAYIM, SAMUEL E

ART UNIT

PAPER NUMBER

2192

NOTIFICATION DATE

DELIVERY MODE

05/26/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/582,937	<b>Applicant(s)</b> LAUFF ET AL.	
	<b>Examiner</b> SAMUEL HAYIM	<b>Art Unit</b> 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/15/2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) 11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-10 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/15/2006</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. The instant application having Application No. 10582937 filed on June 15<sup>th</sup> 2006 where claims 1-11 are presented to the Examiner for examination. However, in preliminary amendment claims 1-10 have been amended, claim 11 has been cancelled and claim 12 has been added. Accordingly, claims 1-10 and 12 are presented for examination by the examiner.

### ***Examiner Notes***

2. Examiner cites particular columns and line numbers in the references as applied to the claims below for the convenience of the applicant. Although the specified citations are representative of the teachings in the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested that, in preparing responses, the applicant fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the examiner.

### **Oath/Declaration**

3. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in **37 C.F.R. 1.63**.

### **Priority**

As required by **M.P.E.P. 201.14(c)**, acknowledgement is made of applicant's claim for priority based on international application filed on December 14<sup>th</sup> 2004 (PCT/EP04/53444),

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which in turn claims foreign priority to application filed December 18th 2003 (EPO 03029167-8).

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

**Drawings**

4. The applicant's drawings submitted are acceptable for examination purposes.

**Information Disclosure Statement**

5. As required by M.P.E.P. 609, the applicant's submission of the Information Disclosure Statement dated June, 15th 2006, is acknowledged by the examiner and the cited references have been considered in the examination of the claims now pending.

**Abstract**

6. The applicant's abstract is acceptable for examination purposes.

**Specification**

7. The applicant's specification is acceptable for examination purposes.

**Claim Objections**

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Claim 8 is objected to for being an improper dependant claim. The dependant claim appears not to have an independent claim to depend from. In preliminary amendment dated June 15th 2006 (same as filing date) the Applicant may have improperly removed the indication as to which claim depending claim 8 depends from. Therefore, the Examiner respectfully asserts, for the purposes of this examination, that claim 8 in fact depends from claim 7.

Please make appropriate considerations.

**Claim Rejections - 35 USC § 101**

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1- 9 are rejected under 35 U.S.C. 101 as directed to non-statutory subject matter of software, *per se*. The claim lacks the necessary physical articles or objects to constitute a machine or manufacture within the meaning of 35 U.S.C. 101. It is clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. It is at best, function descriptive material *per se*.

**In this case, applicant has claimed a “a computer implemented complexity indicator” in the preamble to these claims; Furthermore the claim goes on to recite a library of functions and an aggregator to aggregate the data; this implies that Applicant is**

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**claiming a system of software, per se, lacking the hardware necessary to realize any of the underlying functionality. Therefore, claim 9 is directed to non-statutory subject matter as computer programs, per se, i.e. the descriptions or expressions of the programs, are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer, which permit the computer program’s functionality to be realized.**

Claims 2-5 are rejected under 35 U.S.C. 101 as non-statutory for at least the reason stated above. Claims 2-5 are depended on claim 1; however, they do not add any feature or subject matter that would solve any of the non-statutory deficiencies of claim 1.

Claim 6 is rejected under 35 U.S.C. 101 as directed to non-statutory subject matter. Claims that claimed series of steps or acts that do not tie to one of another statutory category or transform to a different state or thing are not statutory within the meaning of 35 U.S.C. 101. **In this case, the claims recite, “method for a complexity evaluation of a user interface”, “receiving a device class specific representation of a user interface”, “determining complexity values”, and “aggregating the complexity values.” However, no specific tie to another statutory category or transformation to a different state or thing is claimed. Absent such a requirement, the claims are not statutory.**

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Claims 7-9 are rejected under 35 U.S.C. 101 as non-statutory for at least the reason stated above. Claims 7-9 are depended on claim 6; however, they do not add any feature or subject matter that would solve any of the non-statutory deficiencies of claim 6.

Claim 12 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter for the following reasons:

The claim fails to place the invention squarely within one statutory class of invention. On page 11, lines 10-31, of the instant specification, Applicant has provided evidence that applicant intends the "medium" to include signals. As such, the claim is drawn to a form of energy. Energy is not one of the four categories of invention and therefore this claim(s) is/are not statutory. Energy is not a series of steps or acts and thus is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefore not a composition of matter.

A computer readable medium such as a medium described in the specification includes signal which can transport data but not store data. Examiner respectfully suggests the Applicant change the claimed term "machine-readable medium" to a "machine-readable storage medium."

**Claim Rejections - 35 USC § 102**

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-3, 10, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by James Noble et al. ("Interactive Design Metric Visualization: Visual Metric Support for User Interface Design" IEEE 1996) (hereinafter Noble).

As per claim 1, Noble discloses a computer complexity indicator having instructions to evaluate the complexity of a user interface that has device class specific representations, each device class specific representation referring to a respective device class and having a respective layout component hierarchy; (For example, abstract, interactive metric visualization is a novel approach providing complex, multi-dimensional feedback on the effects of layout changes in user interface designs; for example, page 213 section 2.1, the layout contains a hierarchy of components that a visualization IDE such as IBM's VisualAge can display. A device class specific representation is a specific user interface. The example of IBM's VisualAge as well as the design implemented by the prior art is intended for use with all user interfaces).

the complexity indicator comprising: a library having complexity evaluation functions to determine complexity values of layout components of the respective layout component hierarchies, where each complexity evaluation function is associated with the layout component to which it is applied; (For example, page 213-215 sections 2.2-3.3, a suite (library) of metrics (complexity evaluation functions) are used to determine the complexity values of a corresponding user interface. The complexity evaluation functions are associated with each of the components to which the functions are applied (see also figures 1-4)).



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and an aggregator to aggregate the complexity values by device class according to the corresponding layout component hierarchy of the respective device class specific representation (For example, figure 4, the results are aggregated together to show the relationships between the components (hierarchy) as well as the complexity of the interface layout. The display pertain to the specific user interface currently under observation but is not limited to just one user interface (i.e. the tool may execute multiple times with each resulting execution associated with a different UI)).

As per claim 2, Noble discloses the complexity indicator of claim 1, further comprising: a transformer to transform the layout component hierarchy of each representation into a corresponding complexity evaluation hierarchy so that the association of each evaluation function with its respective layout components is redirected through the corresponding component of the respective complexity evaluation hierarchy and the evaluation function is applied to the corresponding component of the respective complexity evaluation hierarchy (For example, figures 2-4, the layout hierarchy is transformed into a complexity evaluation hierarchy (as seen in the figures) where the different lines reflect the metrics (complexity evaluation functions) applied to the different layout components of the complexity evaluation hierarchy).

As per claim 3, Noble discloses the complexity indicator of claim 1, further comprising: a complexity display to visualize the aggregate complexity values by device class (For example, figure 4, the figure shows the complexity display which is a visualization of the aggregate complexity values).

As per claim 10, Noble discloses a computer system having at least one computing device configured to run an integrated development environment that includes a complexity

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indicator according to claim 1 (For example, page 213 section 2.1, few design tools also display semantic information about the relationship between the interface and the rest of the program.

For example, IBM's VisualAge is one such program which is an integrated development environment (IDE)).

As per claim 12, Noble discloses a machine-readable medium storing a complexity indicator according to claim 1 (For example, the software according to the invention executes on a 64M Sparc 4 processor. Processors are coupled to memory (machine-readable medium) that queue up instructions that enable the processor to execute the instructions in a capable order to produce results).

**Claim Rejections - 35 USC § 103**

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 4-9 is rejected under 35 U.S.C. 103(a) as being unpatentable over James Noble et al. ("Interactive Design Metric Visualization: Visual Metric Support for User Interface Design" IEEE 1996) (hereinafter Noble) in view of Parker et al. (US 5,600,789) (hereinafter Parker).

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As per claim 4, Noble discloses the complexity indicator of claim 3, wherein the complexity display [has a drill down portion] to visualize complexity values of layout components related to a selected device class (For example, figure 4, the figure depicts a complexity evaluation hierarchy based on the selected (currently evaluated user interface)).

Noble does not expressly disclose a drill down portion.

However, Parker discloses a drill down portion (For example, figure 13 and 15, the display of the evaluation of the user interface is based on the selected device (WINDOWS or MAC operating environments (figure 13) or computer 1 or 2 (figure 14)). All devices tested allowing for a selection of one particular devices and then viewing results (i.e. drill down)).

Noble and Parker are analogous art because they are from the same field of endeavor of testing user interfaces.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the user interface testing system as described by noble and extend it to multiple test multiple user interfaces for different devices as taught by Parker because it would provide for the efficient means for simplifying the ease of testing user interfaces designed for multiple platforms (see Parker column 2 line 26-56).

As per claim 5, Noble discloses the complexity indicator of claim 4 in combination with a tree-based outline editor to generate an outline views of the representations that corresponds to the selected device class configured to highlight a layout component that is selected in the complexity display for drill down purposes (For example, figure 3 and page 214 section 3.1, task concordance is a measure of the fit between the expected frequency of various tasks and their relative difficulty using a given interface design. TC is computed as the rank order correlation

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between tasks ranked by operational difficulty (e.g. steps or path length) and by anticipated frequency of use. The figure 3 shows an interactive tree-based outline representation of TC which orders the difference tasks based on frequency and pathlength. The tree is based on a selected device class (UI that is currently selected for evaluation).

As per claim 6, Noble discloses a method for complexity evaluation of a user interface, comprising: (For example, abstract, interactive metric visualization is a novel approach providing complex, multi-dimensional feedback on the effects of layout changes in user interface designs).

determining complexity values of layout components of the device class specific representations by applying complexity evaluation functions that are associated with respective layout components; (For example, page 213-215 sections 2.2-3.3, a suite (library) of metrics (complexity evaluation functions) are used to determine the complexity values of a corresponding user interface. The complexity evolution functions are associated with each of the components to which the functions are applied (see also figures 1-4)).

and aggregating the complexity values by device class according to a corresponding layout component hierarchy of the respective device class specific representation (For example, figure 4, the results are aggregated together to show the relationships between the components (hierarchy) as well as the complexity of the interface layout. The display p3ertain to the specific user interface currently under observation but is not limited to just one user interface (i.e. the tool may execute multiple times with each resulting execution associated with a different UI)).

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Noble does not expressly disclose device class specific representations of the user interface, wherein each device class specific representation referring to a respective device class.

However, Parker discloses receiving device class specific representations of the user interface, wherein each device class specific representation referring to a respective device class; (For example, figure 13 and 15, each operating environment and computer has a separate user interface design that is unique to that respective operating environment or computer).

Noble and Parker are analogous art because they are from the same field of endeavor of testing user interfaces.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the user interface testing system as described by noble and extend it to multiple test multiple user interfaces for different devices as taught by Parker because it would provide for the efficient means for simplifying the ease of testing user interfaces designed for multiple platforms (see Parker column 2 line 26-56).

As per claim 7, Noble discloses the method of claim 6, further comprising: transforming the layout component hierarchy of each representation into a corresponding complexity evaluation hierarchy so that the association of each evaluation function with its respective layout component is redirected through the corresponding component of the respective complexity evaluation hierarchy and the evaluation function is applied to the corresponding component of the respective complexity evaluation hierarchy (For example, figures 2-4, the layout hierarchy is transformed into a complexity evaluation hierarchy (as seen in the figures) where the different lines reflect the metrics (complexity evaluation functions) applied to the different layout components of the complexity evaluation hierarchy).

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As per claim 8, Noble discloses the method of claim 6, further comprising: visualizing the aggregate complexity values by device class (For example, figure 4, the figure shows the complexity display which is a visualization of the aggregate complexity values).

As per claim 9, Noble discloses the method of claim 8, wherein the visualizing comprises: visualizing complexity values of layout components related to a selected device class [in a drill down portion] (For example, figure 4, the figure depicts a complexity evaluation hierarchy based on the selected (currently evaluated user interface)).

Noble does not expressly disclose a drill down portion.

However, Parker discloses a drill down portion (For example, figure 13 and 15, the display of the evaluation of the user interface is based on the selected device (WINDOWS or MAC operating environments (figure 13) or computer 1 or 2 (figure 14)). All devices tested allowing for a selection of one particular devices and then viewing results (i.e. drill down)).

Noble and Parker are analogous art because they are from the same field of endeavor of testing user interfaces.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the user interface testing system as described by noble and extend it to multiple test multiple user interfaces for different devices as taught by Parker because it would provide for the efficient means for simplifying the ease of testing user interfaces designed for multiple platforms (see Parker column 2 line 26-56).

**Conclusion**

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel Hayim whose telephone number is (571) 270-3370. The examiner can normally be reached on Monday to Friday 8:30 AM to 5:00 PM.

If attempts to reach the above noted Examiner by telephone are unsuccessful, the Examiner's supervisor, Tuan Dam, can be reached at the following telephone number: (571) 272-3695.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/SAMUEL HAYIM/  
Examiner, Art Unit 2192  
/CHAMELI C. DAS/  
Primary Examiner, Art Unit 2192  
Dated: 5/20/10